

XVIII. *The Rhopalocera of the Mt. Everest 1921 Expedition.*  
By N. D. RILEY.

[Read October 18th, 1922.]

PLATES XXXVI, XXXVII.

THE following list is in some respects disappointing, a number of species, such as *Parnassius imperator augustus*, *Polygonia interposita agnicula*, etc., which one would expect to find, not being represented in the collection at all. On the other hand, the seven (possibly eight) new species and forms collected represent a very fair percentage on a total of only thirty-three (or possibly thirty-four) species obtained altogether by the Expedition. Nearly all the new forms are from the comparatively lower regions—such as Kharta, Nyenyam and the Rongshar Valley, the upper ends of deep gorges which cut through the Himalayas from Nepal. It would be difficult to explain the presence, within a few miles of Mt. Everest, of such species as *Catopsilia crocale* and *Colias fieldi* were it not for the existence of these valleys.

The highest altitude at which Rhopalocera were collected was at 18,500 ft., at the camp on the moraine shelf above the Rongbuk Glacier a short distance N.N.W. of Mt. Everest. Here *Parnassius acco* and *epaphus* and *Vanessa caschmirensis* and *ladakensis* were met with, but no other species. Above it Rhopalocera do not seem to exist anywhere in the Indo-Tibetan frontier region.

The specimens collected by Mr. A. F. R. Wollaston are indicated by (*W.*); these have become the property of the British Museum (Nat. Hist.). Those collected by Mr. Bullock and presented by him to the Hope Department, Oxford University Museum, are indicated by (*B.*). The third collection, made by Major Morshead, who was attached to the Expedition, is in the possession of Colonel Evans, who has very kindly sent me a list of it, which is appended.

My thanks are due to Prof. Poulton for allowing me to work out Mr. Bullock's collection, and for duplicates, and also to Mr. Wollaston for the following note on the localities. Further details on this last point can be found in the Journal of the Royal Geographical Society.

TRANS. ENT. SOC. LOND. 1922.—PARTS III, IV. (FEB. '23)

"Specimens taken before June 25th and all those labelled '*Tingri*' came from open stony plains at an altitude of between 13,000 and 15,000 ft. Weather bright and rainless. Vegetation very scanty. Dwarf plants only found.

" '*Rongbuk Glacier*' and '*East Rongbuk Glacier*.' On the north side of Everest; rounded stony mountains bare of snow up to about 19,000 ft. in July. Vegetation very sparse. Fog and snow in latter part of month.

" '*Thung La*.' Similar to Rongbuk.

" '*Nyenyam*,' '*Lapchi*' and '*Rongshar*.' Between 12,000 ft. and 13,000 ft., west of Mt. Everest. These places are in the upper parts of deep gorges which cut through the main range of the Himalaya, and are within a mile or two of the upper limit of subtropical vegetation of a Nepalese character.

" '*Kharta*' is similar to '*Nyenyam*,' etc., and is situated about twenty-four miles due east of Mt. Everest. Vegetation partly Tibetan, partly subtropical, in character. Weather mostly wet in August and September."—A. F. R. WOLLASTON.

## PAPILIONIDAE.

### 1. *Papilio machaon sikkimensis* Moore.

1903. *Papilio sikkimensis* Moore, Lep. Ind., vi, p. 44.

1907. *P. machaon* race *sikkimensis* Bing., Fauna Br. Ind. Butt., ii, p. 36.

1909. *P. machaon sikkimensis* Jordan, in Seitz Macro-Lep., ix, p. 47.

1912. *P. machaon sikkimensis* Evans, List Ind. Butt., Journ. Bombay N. H. Soc., xxi, p. 971.

Tibet Road, between Gautsa and Phari, 13,500 ft., 29/5/21 (*Bullock*).

1 ♂, 1 ♀, both very battered.

### 2. *Parnassius acco gemmifer* Frühst.

1901. *Tadumia acco* Moore, l.c., v, p. 116. (part).

1907. *Parnassius acco* Bing., l.c., ii, p. 129. (part).

1909. *P. acco gemmifer* Frühst., in Seitz, ix, p. 110.

1912. *P. (Tadumia) acco gemmifer* Evans, l.c., p. 974.

1 ♂, above Rongbuk Glacier, 17,400 ft., 6/7/21 (*Bullock*).

2 ♂, 6 ♀, Thung La, 16,000 ft., 14/7/21 (*Wollaston*).

4 ♂, 2 ♀, Thung La, 14,000 ft., 15/7/21 (*Wollaston*).

3. *Parnassius epaphus* Oberthür.

1909. *Parnassius epaphus* Bing., l.c., p. 120.

1912. *Parnassius epaphus* Evans, l.c., p. 974.

(a) *P. epaphus everesti*, ssp. nov.

(Pl. XXXVI, fig. 7 ♂, fig. 8 ♀).

1 ♂, 30/6/21; 3 ♂, 1 ♀, 2/7/21; 2 ♂, 6/7/21; 2 ♂, 1 ♀, 7/7/21, 17,400 ft.; 3 ♂, 5 ♀, 14/7/21; 1 ♂, 2 ♀, 18/7/21, 18,500 ft. All "at camp N.N.W. of Mt. Everest on moraine shelf above Rongbuk Glacier" (Bullock).

A small but very well-defined local race. About the same size as *sikkimensis* Elwes and *phariensis* Avinoff, but differing from both of these, more particularly from the latter, in the greater opacity of the white ground-colour and the marked reduction of the black marginal markings of both wings. In the ♂ the submarginal lunules on the hind-wing are almost absent and in the ♀ only very slight, and the same applies to the submarginal series of the fore-wing, but to a lesser extent. The red markings are large and conspicuous on both surfaces, much as in *phariensis*.

The race shows a very distinct approach to the more northerly forms *altynensis* Staud. and *nanchanica* Aust.

(b) *Parnassius epaphus himalayanus*, ssp. nov.

(Pl. XXXVI, fig. 6 ♂).

2 ♂, 17,000 ft., 8/8/21; 1 ♂, 16,700 ft., 6/8/21, Camp 9 miles E. of Everest, (B.).

1 ♂, Chog La, between Kharta Valley and Karna Valley, 8/8/21 (W.).

1 ♀, Rongshar Valley, 14,000 ft., 28/7/21 (W.).

♂. Approaches *sikkimensis* in general appearance very much more than does the preceding form, being more transparent and greyer. The submarginal band on the fore-wing is the most characteristic feature, the black lunules of which it is composed being so much increased in size as to form a continuous only slightly dentate band equal in width to the marginal band. The corresponding band on the hind-wing is similarly very conspicuous, and formed of very well-defined large wedge-shaped black marks. The fore-wing is devoid of red markings; the hind-wing has only the costal and discal spots red-centred.

In the ♀ the ground-colour is rather more opaque, but there is no black suffusion. The upper costal spot on fore-wing is red-centred, and, on the hind-wing, the basal spot as well.

The range of this subspecies is most probably east and west along the Himalayas; that of the preceding subspecies northward through Tibet.

#### 4. *Parnassius hardwickii* Gray.

1901. *Parnassius hardwicki* Moore, *l.c.*, v, p. 111.

1907. *Parnassius hardwickei* Bing., *l.c.*, ii, p. 121.

1909. *P. hardwicki* Frühst., in Seitz, ix, p. 111.

1912. *P. hardwickii* Evans, *l.c.*, p. 974.

1 ♂, Nyenyam, W. of Everest, 12,500 ft., 17/7/21 (W.).

1 ♀, Rongshar Valley, W. of Everest, 14,000 ft., 28/7/21 (W.).

Both in excellent condition.

#### 5. *Parnassius delphioides lampidius* Frühst.

1903. *Parnassius delphioides lampidius* Frühst., *Iris*, p. 44.

1907. *Parnassius delphioides* race *whitei* Bing., *l.c.*, ii, p. 125.

1912. *Parnassius lampidius* Frühst., in Seitz, ix, p. 110.

1 ♂, Thung La, 14,000 ft., 15/7/21 (W.).

### PIERIDAE.

#### 6. *Pieris brassicae nepalensis* Doubl.

1904. *Danaus brassicae* Moore, *l.c.*, vi, p. 127.

1907. *Pieris brassicae* Bing., *l.c.*, ii, p. 170.

1910. *P. brassicae nepalensis* Frühst., in Seitz, ix, p. 139.

1912. *P. brassicae* Evans, *l.c.*, p. 976.

1 ♂, Kharta, 12,000 ft., 2/9/21 (W.).

#### 7. *Pieris chumbiensis* de N.

1904. *Parapieris chumbiensis* Moore, *l.c.*, vi, p. 143.

1907. *Pieris chumbiensis* Bing., *l.c.*, ii, p. 174.

1910. *Parapieris chumbiensis* Frühst., in Seitz, ix, p. 140.

1912. *Pieris* (*Parapieris*) *chumbiensis* Evans, *l.c.*, p. 976.

1 ♂, between Gautsa and Phari, 13,500 ft., 29/5/21 (B.).

#### 8. *Baltia butleri sikkima* Frühst.

1910. *Baltia sikkima* Frühst., in Seitz, ix, p. 138.

1912. *Baltia butleri sikkima* Evans, *l.c.*, p. 975.

1 ♂, 10 miles E. of Tatzang, 17,000 ft., 4/6/21 (B.).

Only very doubtfully separable from *B. butleri butleri* from Ladak and Cashmere.

9. *Colias cocandica tibetana*, ssp. nov.

(Pl. XXXVI, fig. 9.)

1915. *Colias cocandica* Evans, J. Bombay N. H. Soc., xxiii, p. 534.

2 ♂, Nyenyam, 13,000 ft., 19/7/21 (W.).

♂. *Upperside*, fore-wing: pale grey with only a very slight greenish suffusion. The light internervular spots in the broad marginal black band produced as fine rays which reach the margin. Hind-wing darker grey and rather greener, internervular pale spots not so well defined, a large pale area at cell end. Cilia white. *Underside*: the hind-wing and the apical area of fore-wing a beautiful deep green, the submarginal spots of both wings rather ill-defined, rust-coloured except in 1b and 2 of fore-wing where they are black. Discocellular spot on fore-wing small, white centred; on hind-wing larger, pure white, nearly surrounded by a rusty area which is produced towards margin in area 4.

This race is a great deal more like typical *cocandica* than is the Ladak representative (*C. thrasibulus* Früh.), but readily separable by its very grey appearance, which contrasts strongly with the markedly green upperside of *cocandica*. It is an approach to *nebulosa* Ob. from W. China, and probably is the same race of *cocandica* as that referred to and figured by Evans (*l.c.*) from the Tsang-Po, E. Tibet, at an altitude of 14,000 ft., collected by Capt. Bailey.

10. *Colias fieldi edusina* Felder.

1907. *Colias croceus* race *fieldi* Bing., *l.c.*, ii, p. 243. (part).

1909. *Eurymus fieldi* Swinhoe, in Moore, *l.c.*, vii, p. 171.

1910. *Colias fieldi edusina* Frühst., in Seitz, ix, p. 165.

1912. *Colias fieldii edusina* Evans, *l.c.*, p. 979.

2 ♂, 2 ♀, between Kharta and Chung Pu, 13,000 ft., 28/7/21; 2 ♀, 30/7/21; 1 ♂, 1 ♀, 31/7/21, Kharta, 12,000 ft. (B.).

1 ♀, 7/8/21; 1 ♂, 14/8/21; 5 ♂, 19/8/21; 5 ♂, 20/8/21; 2 ♂, 21/8/21, Kharta, 12,000 ft.; 3 ♂, 17/7/21, Nyenyam, 12,500 ft.; 1 ♂, 28/7/21, Rongshar Valley, 14,000 ft. (W.).

A very constant series except as to size; 14,000 ft. seems to be about the highest point this species reaches in any part of its distribution.

### 11. *Colias berylla* Fawcett.

1907. *Colias ladakensis* race *berylla* Bing., *l.c.*, ii, p. 236.

1909. *Eurymus berylla* Swinhoe, *l.c.*, vii, p. 169.

1910. *Colias berylla* Frühst., *l.c.*, ix, p. 165.

1912. *Colias ladakensis berylla* Evans, *l.c.*, p. 979.

2 ♂, 26/6/21; 1 ♂, 7/7/21, Tingri, 14,000 ft. (W.).

All three absolutely typical.

### 12. *Colias dubia* Elwes.

(Pl. XXXVII, figs. 1-5.)

1907. *Colias dubia* Bing., *l.c.*, p. 239.

1909. *Eurymus dubia* Swinhoe, *l.c.*, vii, p. 167.

1910. *Colias dubia* Frühst., *l.c.*, ix, p. 165.

1912. *Colias dubia* Evans, *l.c.*, p. 979.

1 ♀, N.E. of Mt. Everest, E. of Deva La, 27/7/21, 16,000 ft.

*Upperside, fore-wing*: clear orange, paler below costa, apex and margin broadly black, the enclosed light markings paler orange, not at all uniform as to size, *i. e.* that in area 2 by far the largest, those in areas 1a, 4 and 5 equal and about half the size, the remainder very narrow; *hind-wing*, similar in ground-colour, largely suffused with blackish especially towards costa, but by no means entirely black; marginal markings in areas 5, 4 and 3 large and conspicuous, the remainder indistinct, merged into the smoky orange of the disc of the wing; discocellular spot bright orange, large. *Underside*: costa, apex, and outer margin of fore-wing and whole of hind-wing bluish green, not yellowish, central and basal areas of fore-wing as above, discocellular spot of hind-wing small, white, situated on the inner edge of a small diffuse purple patch, sub-marginal series very indistinct, brownish grey except in areas 1a-3 of fore-wing in which they are very conspicuous and black.

This female agrees much better in all respects with the ♂ type of *C. dubia* Elwes (P.Z.S., p. 481, 1906) than does the ♀ which Elwes then associated with his ♂, and can safely be assumed to be the true ♀ of that species. With it, as *C. dubia*, should be associated the *Colias* figured by

Fawcett (P.Z.S., 1904 (2), Pl. 9, fig. 10a, ♀) as *Colias eogene* var. *leechi* Gr.-Gr., ♀.

The female described by Elwes—which is in the B.M.—as his ♀ type of *dubia* is really a ♀ of *C. miranda* Frühst., and it agrees with the types of that form which are also in the B.M. For the sake of comparison the actual type specimens of *C. dubia* and *C. miranda* are here figured.

What is really the status of each of these forms it is difficult to say. The most likely hypothesis seems to be that *C. miranda* is the Himalayan, *C. dubia* the more truly Tibetan representative of *C. eogene*, to the Ladak form of which (*stoliczkana*) they show most resemblance.

### 13. *Catopsilia crocale* Cramer.

1907. *C. crocale* Bing., l.c., p. 219.

1909. *C. crocale* Swinhoe, l.c., vii, p. 88.

1910. *C. crocale* Frühst., l.c., ix, p. 162.

1912. *C. crocale* Evans, l.c., p. 979.

1♀, Lapchi, 12,500 ft., 22/7/21 (W.).

Rarely seen above 12,000 ft., on the southern slopes of the Himalayas only. (Lapchi is just at the upper limit of subtropical Nepalese vegetation.—A.F.R.W.)

## NYMPHALIDAE.

### 14. *Argynnis lathonia issaea* Moore.

1900. *Rathora issaea* Moore, l.c., iv, p. 241.

1905. *A. lathonia* race *issaea* Bing., l.c., i, p. 441.

1912. *A. lathonia issaea* Frühst., l.c., ix, p. 514.

1912. *A. (Rathora) lathonia issaea* Evans, l.c., p. 582.

1 ♂, Nyenyam, 12,500 ft., 17/7/21 (W.).

### 15. *Argynnis pales eupales* Frühst.

1905. *Argynnis pales* Bing, l.c., i., p. 447. (part).

1912. *Boloria pales eupales* Frühst., l.c., ix, p. 512.

1 ♂, Nyenyam, 13,000 ft., 19/7/21 (W.).

### 16. *Argynnis eugenia rhea* Gr.-Gr.

1908. *A. eugenia rhea* Seitz, i, (Pal.), p. 233.

2 ♂, 1 ♀, E. of Doya La, 16,000 ft., 27/7/21 (B.).

1 ♀, Doya La, 16,700 ft., 1/8/21; 1 ♂, Rebu, 14,000 ft., 1/8/21; 2 ♂, 1 ♀, Kharta, 14,500 ft., 5/8/21 (W.).

TRANS. ENT. SOC. LOND. 1922.—PARTS III, IV. (FEB. '23) 11



1 ♀, Valley bottom 10 miles E. of Everest, 14,000 ft., 9/8/21 (B.).

Specimens taken at 16,000 ft. and above are much the smallest.

17. *Argynnis clara manis* Frühst.

1900. *Boloria clara* Moore (part), *l.c.*, iv, p. 253.

1905. *A. clara* race *manis* Bing., *l.c.*, i, p. 443.

1912. *A. clara manis* Frühst., *l.c.*, ix, p. 514.

1912. *A. (Boloria) clara manis* Evans, *l.c.*, p. 582.

1 ♂, E. of Doya La, 16,000 ft., 27/7/21, (B.).

18. *Melitaea sindura tibetana* Fawcett.

1905. *M. sindura* race *sikkimensis* f. *tibetana* Bing., *l.c.*, i, p. 453.

1912. *M. sindura tibetana* Frühst., *l.c.*, ix, p. 511.

1 ♂, E. of Doya La, 16,000 ft., 27/7/21 (B.).

19. *Vanessa chinensis* Leech.

1908. *V. urticae chinensis* Stichel, in Seitz, i, p. 203.

1 ♀, Tibet Plateau, between Kishong and Shigar Jong, 14,000 ft., 16/6/21 (B.).

20. *Vanessa caschmirensis aësis* Frühst.

1899. *Aglais kaschmirensis* Moore, *l.c.*, iv, p. 87.

1905. *Vanessa caschmirensis* Bing., *l.c.*, i, p. 367.

1912. *V. caschmirensis aësis* Frühst., *l.c.*, ix, p. 527.

1912. *Vanessa (Aglais) caschmirensis* Evans, *l.c.*, p. 579.

1 ♀, 30/6/21, 17,400 ft.; 1 ♂, 16/7/21, 18,000 ft., N.N.W. of Everest, above Rongbuk Glacier; 2 ♂, Kharta, 12,000 ft., 30/7/21 (B.).

21. *Vanessa ladakensis* Moore.

1899. *Aglais ladakensis* Moore, *l.c.*, iv, p. 90.

1905. *Vanessa ladakensis* Bing., *l.c.*, i, p. 368.

1912. *V. urticae ladakensis* Frühst., *l.c.*, ix, p. 527.

1912. *V. (Aglais) ladakensis* Evans, *l.c.*, p. 579.

1 ♂, 25 miles N. of Phari, 14,800 ft., 1/6/21; 3 ♂, 7 ♀, 15 miles E. of Tatzang, 15,700 ft., 3/6/21; 1 ♂, above Rongbuk Glacier, 17,400 ft., 30/6/21 (B.).

With regard to the last three species, these records are additional proof that the three are not all forms of *V. urticae*. *Ladakensis* and *caschmirensis* occur throughout the area traversed by the expedition, and dated speci-



mens, including some from other sources in the B.M., show them to be on the wing in that area throughout June and July. *Chinensis* seems only to have been taken in June, the above locality being the most western so far recorded. It was also taken at Gyantse by the Tibet Exp. (1903), so its range well overlaps that of the other two.

## SATYRIDAE.

### ARGESTINA, gen. nov.

Closely related to *Erebia* and *Callerebia*, having some of the characters of both. In appearance resembling more the former than the latter.

*Antennae*  $\frac{2}{3}$  the length of costa, delicate, the club very broad and spatulate, short, arising rather abruptly. *Palpi* large, very hairy, as usual in this group. *Tibiae* and *tarsal joints* all spiny, but not conspicuously, the last tibial spine the most prominent on each leg. *Wings*, in shape, resembling more *Erebia*. Fore-wing costa arched, but not nearly so much as in *Callerebia*, hind margin conspicuously straight in ♂, more rounded in ♀. Subcostal vein very much swollen at base, median hardly at all. Vein 5, at origin, about equidistant from 4 and 6; 10 invariably arising out of stalk of 7, 8, and 9 well beyond cell end. Of the discocellular veins, the lowest is straight, the middle one very much bowed in, the upper extremely short. Hind-wing very little broader than fore-wing, the anal angle slightly produced towards median line, not extending far beyond extremity of abdomen, the outer margin evenly rounded. In the ♂ the central third of the fore-wing, except anteriorly, is occupied, in all except one species, by an area of very dark brown modified scales, transversely crossed by a number of fine ridges producing the appearance of ripples—a feature also present in some species of *Callerebia*.\*

---

\* The following short key seems to separate the Himalayan species of this *Erebia*-like group into fairly natural genera:—

- 1 (2). Fore-wing MDC straight, considerably less than  $\frac{1}{2}$  as long as LDC. . . . . *Erebia*.
- 2 (1). MDC strongly incurved, as long (or nearly so) as LDC.
- 3 (6). Club of antennae short, stout, arising abruptly.
- 4 (5). Vein 10 free or connate with stalk of 7, 8, and 9 . . . *Paralasa*.
- 5 (4). Vein 10 out of 7, 8, and 9 well beyond cell end . . . *Argestina*.
- 6 (3). Club of antenna long, narrow and arising gradually . . . . . *Callerebia*.

The generic names *Dallacha* and *Hemadara*, proposed by Moore for his species *hyagriva* and *narasingha* respectively, scarcely seem

Type: *Argentina waltoni* Elwes. (*Callerebia waltoni* Elwes, P.Z.S., p. 482, Pl. 36, f. 14 (♂), f. 15 (♀), 1906.

22. *Argentina karta*, sp. nov.

(Pl. XXXVI, fig. 11 ♂, fig. 12 ♀.)

1 ♂, 2 ♀, 30/7/21; 1 ♂, 31/7/21, Kharta, 12,000 ft. (B.).

♂. *Upperside, both wings*: very dark brown, almost black, the cilia paler, greyish. *Fore-wing* with the marginal area slightly lighter, a minute white-pupilled ocellus in area 5 and a very indistinct submarginal dark line from costa to about vein 3, the ripples on the area of modified scales very inconspicuous. *Underside, fore-wing*: warm chestnut brown, with a darker transverse shade just beyond the cell, the costa, apex, hind margin and tornus darker, grey brown, the apex, as far as ocellus, irrorated with dark ochreous; the ocellus black, reaching from vein 4 almost to vein 7, white pupilled, ringed with pale yellowish. *Hind-wing*: dark greyish, crossed by a basal, a discal and a submarginal very wavy darker line, and with a postdiscal series of 5 white points, the area from base to discal transverse line darker than the discal area, the whole wing densely sprinkled with very dark brown, and with ochreous, the latter more particularly just beyond discal transverse line.

♀. *Upperside, both wings*: much lighter brown than in the ♂. *Fore-wings*: the greater part of the wing, except the margins (more particularly inner margin), suffused warm chestnut brown, which renders the rather larger ocellus and the submarginal line very much more conspicuous. *Underside*: as in the ♂, except that the whole tone of the markings is rather lighter.

Length of fore-wing, ♂ 23 mm.; ♀ 22 mm.

Besides the type species (*waltoni* Elwes) and the species described above, the genus includes *inconstans* South, with its subspecies *gyala* Evans, and a fourth species obtained with *waltoni* by the Tibet Expedition in 1904.\*

---

to be justifiable. Although very aberrant in *facies* these do not seem structurally separable from *Callerebia*.

\* *Argentina nitida*, sp. nov. See Appendix II.

23. *Paroeneis grandis*, sp. nov.

(Pl. XXXVI, fig. 10.)

2 ♂, Kharta, W. of Mt. Everest, 12,000 ft., 30/7/21 (B.).

♂. *Upperside, both wings*: rich bright fulvous, the hind margin (broadly), and the veins black; cilia light ochreous, broadly flecked with black at the extremities of the veins. *Fore-wing*: costal area suffused blackish, a black spot in area 5 centrally in the centre of a paler ochreous field, which is continued in a paler band interrupted at the veins, to inner margin. *Hind-wing*: a narrow transverse paler band crosses wing just within the black marginal border, the dark spots on cilia much smaller than on fore-wing. *Underside*: *fore-wing* pale ochreous, the broad discal band paler, not interrupted at the veins in one specimen, costal, apical, and hind marginal areas grey with numerous short darker striations (the type), interrupted at 2, 3, and 4 in the others. On the *hind-wing* the outer edge of the black basal area is extremely sinuous throughout its length and bordered by a narrow pale band (1-1.5 mm.). Beyond this, the whole wing surface heavily mottled with black, dark grey, and brown, through which and midway between hind margin and the pale transverse band, runs a very sinuous, interrupted broad black discal line; veins blue grey.

Length of fore-wing, 26-27 mm.

Nearest *P. bicolor*, but readily separated from all other members of the genus by the richness and uniformity of the fulvous coloration of upperside, the blackness of the margins, its size, and the width of the pale band of the underside of the hind-wing, which approaches that of, but remains narrower than in *P. bicolor* Staud.

24. *Paroeneis bicolor* Staud.

1911. *Oeneis pumilus bicolor* Frühst., l.c., ix, p. 311.

1912. *Satyrus* (*Paraeneis*) *pumilus bicolor* Evans, l.c., p. 562.

1 ♀, Nyenyam, 13,000 ft., 19/7/21; 1 ♂, 27/7/21; 1 ♂, 2/8/21, Rongshar Valley, 14,000 ft. (W.).

25. *Paroeneis sikkimensis* Staud.

1893. *Paroeneis sikkimensis* Moore, l.c., ii, p. 38.

1905. *Oeneis pumilus* race *sikkimensis* Bing, l.c., i, p. 129.

1911. *Oeneis palearcticus sikkimensis* Frühst., l.c., ix, p. 311.

1912. *Satyrus (Paraeneis) palearcticus sikkimensis* Evans, l.c., p. 562.

3 ♂, 2 ♀, 3/8/21, 17,000 ft.; 3 ♂, 5/8/21, 16,000 ft., S. of Kharta (W.).

3 ♂, 5 ♀, 6/8/21; 4 ♂, 1 ♀, 8/8/21, 5 miles E. of Everest, 16,700 ft. (B.).

Darker and very much smaller than either of the preceding species.

The specific limits in this genus are rather difficult of definition. The three species mentioned above show an interesting transition in size and coloration as the elevation increases. At Kharta, 12,000 ft., the largest and most richly coloured species in the genus is found (*P. grandis*); in the same region, but at 13,000–14,000 ft., a smaller form scarcely separable from *P. bicolor*, but yet rather larger and more darkly marked than that species, is to be found, considerably smaller than *P. grandis*, but with the same rich fulvous ground-colour, much more suffused with blackish. Higher still, at 16,000–17,000 ft., *P. sikkimensis* is met with; a still smaller insect, having barely two-thirds the wing span of *P. grandis* and much greyer above and below.

The genitalia show corresponding differences. In all the forms examined, the extremity of the clasper in the ♂ consists of a pair of lobes, an upper and a lower, and the tegumen, just below the uncus, bears a pair of large chitinous processes sometimes almost as long as the uncus itself. In *P. grandis* the upper lobe of the clasper is large, blunt and slightly longer than the smaller and much more pointed lower lobe. In *P. bicolor* and *P. sikkimensis*, however, the lower pointed lobe is by far the larger, and the upper blunt lobe, though retaining the outline of that of *P. grandis*, is very much shrunken in size, more particularly in *sikkimensis*, which thus approaches *P. pumilus* (from N.W. Himalayas), in which the upper lobe has entirely disappeared, the upper angle of the extremity of the clasp being merely bluntly rectangular.

*P. grandis* seems sufficiently distinct to be given specific rank, and the same may be said of *P. pumilus*. The form described by Staudinger as *P. pumilus* f. *bicolor*, however, has much more in common with *sikkimensis* than with *pumilus*, so much so, in fact, that it is extremely difficult, in a long series, to separate them off.

LYCAENIDAE.

26. *Polyommatus arene* Fawcett.

1909. *Lycaena stoliczkana arene* Seitz, i, p. 311.

1910. *Polyommatus ariana* (part) Swinhoe, l.c., viii, p. 26.

1 ♂, between Kishong and Shekar Jong, 14,000 ft., 16/6/21; 2 ♂, 1 ♀, Shekar Jong 14,000 ft., 17/6/21 (B.).

17♂, 7 ♀, Tingri, 14,000 ft., 26/6/21; 1 ♂, 1 ♀, Nyenyam, 12,500 ft., 17/7/21 (W.).

Fresh and very worn specimens were taken together on 17/6/21; fresh specimens again on 17/7/21, whilst all the series from Tingri were taken in beautifully fresh condition. This seems to contradict rather flatly the statement in Lep. Ind., 8, p. 27, that *arene* is the dry-season form of *ariana*, as all the specimens are referable to *arene* and show very little variation indeed. None of the females exhibit more than a trace of blue suffusion on the upperside. The large white wedge-shaped mark arising from the orange lunules of the underside of the hind-wing in areas 3 and 4, and directed basad, as well as the pale ground-colour, separate this species at once from the next.

27. *Polyommatus everesti*, sp. nov.

(Pl. XXXVI, fig. 1 ♂, 2, and 3 ♀.)

1 ♂, 1 ♀, 27/7/21; 1 ♂, 28/7/21, Rongshar, 13,000 ft.; 2 ♂, 1 ♀, Rebu, 14,000 ft., 31/7/21; 5 ♂, 1 ♀, Kharta, 12,000 ft., 7/8/21; 2 ♂, 1 ♀, 19/8/21; 1 ♂, 2 ♀, 20/8/21; 1 ♀, 21/8/21, Kharta, 12,500 ft. (W.).

14 ♂, 3 ♀, between Kharta and Chung Lung Pu, 13,000 ft., 28/7/21; 2 ♂, 1 ♀, 30/7/21; 3 ♂, 2 ♀, 31/7/21, Kharta, 12,000 ft. (B.).

♂. *Upperside, both wings*: brilliant azure blue, the margins narrowly black, inwardly crenulate, cilia long, silvery-white, darker proximally. *Underside, fore-wing*: ground-colour sooty grey, slightly green tinged at the base, the ocelli black with very broad and well-defined white rings, viz. one in cell, just before origin of vein 3, and a discal series of six, the first and the last the smallest; a dark oval broadly white-ringed mark at cell end, the outer white edging produced to form a white cone or Y-shaped mark; a sub-marginal series of suberescient pale grey marks, followed by a

marginal diffuse white line, interrupted by the rather prominent veins; and a dark anteciliary line, cilia as above. *Hind-wing*: ground-colour rather darker than on fore-wings, more brownish, the basal area suffused metallic greenish, a faint white spot in cell followed by a large white broadly wedged-shaped mark, the basis of which is the spot on the discocellulars—*no similar submarginal white mark*. Beyond this a series of 9 ocelli similar to those on fore-wing, the first, in area 1b indistinct, the remainder prominent, the last two both in area 7, the series sinuous from 1 to 6, then bent at right angles, 6, 7, and 8 being in line, 9 towards the base of area 7. Marginal area whitish, well separated from the ocellar series, inwardly diffuse, enclosing a double series of fine black crescents except in area 7, each pair enclosing a faint orange spot. Cilia as above, preceded by a fine dark anteciliary line. The veins prominently paler than the ground-colour.

♀. *Upperside, both wings*: brilliant blue, of a deeper shade than in ♂, the margins and costal areas, especially of fore-wing, broadly and diffusely black, enclosing scattered blue scales. Cilia as in ♂. *Underside, both wings*: as in the ♂, but with no spot in cell on fore-wing, and the marginal pale markings much broader and more diffuse. On the *hind-wing* the inner series of crescentic marks almost obsolete, the outer prominent, the two series more widely separated, the orange more conspicuous.

Length of fore-wing, ♂ 15–19 mm.; ♀ 14–18 mm.

The series exhibits considerable variation. On the upperside in the ♂ the black margins vary in width and as to the definition of the inner edge, especially on the fore-wing; in the ♀ the blue suffusion is in some specimens confined to the base of the wings with only a few scattered scales on the disc, and in these specimens the hind-wing bears a submarginal series of diffuse bluish lunules, which in one specimen are distinctly marked with orange. On the underside, the veins, usually very prominent, do not stand out in all specimens, the ocellus in the cell of the fore-wing is as frequently absent as present, the relative prominence of the ocelli as between each other varies considerably, as also does their size; but their heavy white ringing and the extraordinary dark smoky ground-colour are very constant. The orange submarginal markings of the hind-wing, always very pale, in some specimens are barely traceable, in others almost as large as in *P. arene*. The genitalia exhibit marked differences from those of *P. arene*.



28. *Lycaena pheretes pharis* Fawcett.

1910. *Plebeius pharis* Swinhoe, *l.c.*, viii, p. 17.

1 ♂, Thung La, 14,500 ft., 15/7/21; 1 ♂, 1 ♀, Rebu, 14,000 ft., 31/7/21 (W.).

29. *Lycaena asiatica* Elwes.

1907. *Lycaena pheretes* race *asiatica* Bing., *l.c.*, ii, p. 352.

1910. *Plebeius asiatica* Swinhoe, *l.c.*, viii, p. 17.

1912. *Lycaena (Albulina) asiatica* Evans, *l.c.*, p. 983.

1 ♀, E. of Everest, 14,000 ft., 9/8/21 (B.).

Evans and Swinhoe are perfectly correct in treating this as a species distinct from *pheretes*. It is confusingly like that species, but has nothing to do with it in reality.

30. *Lycaena janigena*, sp. nov.

(Pl. XXXVI, fig. 4 ♂, fig. 5 ♀.)

1 ♀, 18/7/21; 1 ♂, 19/6/21, Nyenyam, 13,000 ft. (W.).

♂. *Upperside, both wings*: deep purplish blue, with a roughish appearance, an even black marginal border, 1 mm. wide or slightly more, cilia white. *Underside, fore-wing*: dull grey brown, the basal area pure grey, an angular, white-ringed, dark mark at cell end followed by a discal series of five broadly white-ringed darker spots, those in areas 4 and 5 much displaced outwardly, the uppermost elongate, shifted inwards slightly, a very faint paler submarginal area, no marginal markings, a fine dark anteciliary line, the pure white fringes deeply but narrowly blackened at the ends of the veins, no markings in the cell. *Hind-wing*: ground-colour much darker and browner than fore-wing, basal area greyer, a basal series of four large white spots, in 7, the cell (double and nearly filling the cell), 1c and 1b, a similar very large spot at cell end, and a discal series of 7 the same but oval in shape, contiguous, those in areas 1c to 5 in a straight row towards apex, those in areas 6 and 7 in line with spot in 5 and forming an angle of about 70° to the others, marginal area, except for a small area close to the discal spots diffusely pale grey, cilia as on fore-wing.

♀. *Upperside, both wings*: uniformly sooty brown, with a few scattered blue scales, cilia darker than in ♂. *Fore-wing*: with a small, faint, grey-ringed spot at cell end. *Underside, both wings*: exactly like the ♂, except for a more ochreous general tone, the presence of a sixth spot (in area 1a) in the discal series, and traces of darker marginal markings on the fore-wing.



Eyes smooth; palpi very hairy, moderately long; antennae prominently white-ringed, the club unusually stout, arising rather abruptly. *Fore-wing* costa and inner margin very straight (as in *L. asiatica*), hind margin very convex especially posteriorly. *Hind-wing* evenly rounded. Palpi, thorax, and abdomen below, and legs, light grey.

Length of fore-wing, ♂ 12.5 mm.; ♀ 11.5 mm.

A very distinct little species unlike anything else known to me, but reminiscent of *L. dis.* Gr.-Gr. and *L. luana* Evans on the underside, except for the fore-wing markings and the *phereles*-like arrangement of the spots on the underside of hind-wing. The blue coloration of the upperside of the ♂ separates it at once from either.

See also supplementary list from Col. Evans (below).

### 31. *Heodes phlaeas* Linn.

1909. *Chrysophanus phlaeas* Seitz, i, p. 285.

1910. *Chrysophanus phlaeas* Swinhoe, l.c., viii, p. 91.

1912. *Chrysophanus phlaeas* Evans, l.c., p. 989.

2 ♂, 20/7/21; 1 ♀, 7/8/21, Kharta, 12,500 ft. (W.).

Very large and of the *eleus* form—not f. *stygianus* Butler.

## APPENDIX I.

Whilst the above specimens were being dealt with, Col. Evans very kindly sent me a list, which I append, of the collection he had received from Major Morshead of the Indian Survey Department, who was attached to the Expedition.

This list increases the total number of species recorded from the area by two for certain (*Argynnis gemmata genia* Frühst. and *Lycaena younghusbandi* Elwes), and adds further localities for most of those already recorded.

The species Col. Evans refers to as *L. stoliczкана* is probably what I have recorded as *L. arene*. Felder's figures and description of *L. stoliczкана* are so unlike any form of *ariana* or *arene*, that it seems at present better not to employ the name for the *icarus*-like form with the very bright blue upperside.

The other doubtful species is *L. morsheadi* Evans. The description of the underside of the hind-wing of this fits exactly

the species described above as *L. janigena*, but the underside of the fore-wing (with a large spot in the cell and a broad white submarginal fascia, etc.), and the coloration of the upperside in the male, are so very different that it does not seem justifiable to unite them at present.

A LIST OF BUTTERFLIES CAUGHT BY MAJOR H. T. MORSHEAD  
DURING THE MOUNT EVEREST EXPEDITION 1921.

By Col. W. H. EVANS.

1. *Oeneis pumilus bicolor*. Nyenyam, July 18; Tasam, July 27; Phuse La, July 28; Ratsal, July 31; Chodzung, July 31; Kharta Chu, Aug. 13. Apparently common at elevations of 11,500–16,500 ft.

2. *Vanessa cashmirensis*. Nyenyam, July 16; two of the three specimens obtained were strongly melanitic; at 13,000 ft.

3. *Vanessa ladakensis*. Tingri, June 19; Dokcho, June 26; all three specimens very worn; at 14,000 ft.

4. *Argynnis lathonia issaea*. Nyenyam, July 17, at 12,500 ft.

5. *Argynnis clara manis*. Thong La, July 14; Ratsal, July 31; Doya La, Aug. 1; five specimens at 16,000 ft.

6. *Argynnis pales eupales*. Nyenyam, July 18; one male at 13,500 ft.

7. *Argynnis gemmata genia*. Kang Chu, July 23; a few specimens at 14,000 ft.

8. *Argynnis eugenia rhea*. Tulung, July 15; Nyenyam, July 18; Kang Chu, July 23; Doya La, Aug. 1; a few specimens at 13,500–16,000 ft.

9. *Pieris brassicae nepalensis*. Chuphar, July 27 at 11,000 ft.

10. *Colias fieldii*. Tingri July 10; Nyenyam, July 17; Chuphar, July 27; Tasam, July 27; at 11,000–14,000 ft.

11. *Colias berylla*. Tingri, July 12 at 14,000 ft.

12. *Parnassius epaphus sikkimensis*. A single specimen, Kharta Chu, July 14 at 17,000 ft.

13. *Parnassius acco gemmifer*. Menkhar To, June 28; Lungchen La, June 29; Thong La, July 14; Yalop and Tulung, July 15; Tingri, June 25; at 14,000–17,500 ft.

14. *Lycaena stoliczka*. Common from June 18 to August 12 at from 13,000–15,000 ft.

15. *Lycaena pheretes asiatica*. Ratsal and Chodzung, July 31, at 15,000 ft.

16. *Lycaena younghusbandi*. Menkhap To, June 28; Dokcho, June 26; Ratsal and Chodzung, July 31; a few from 15,000–16,000 ft.

17. *Lycaena morsheadi*, new species. One male, Tasam, 15,500 ft., and one female, Phuse La, 16,000 ft., both on July 28.

### *Description.*

Male, above dark brown, loosely powdered dull blue scales, giving a frosted appearance; a diffused white spot at the end of each cell; border dark brown,  $\frac{3}{4}$  millimetre wide; cilia long and white. Female, above, blue scales, very sparse dark border and white cell spots absent. Below fore-wing lead grey, a large white diffused spot in the cell, and, at the end, a contiguous row of large, dark-centred, white spots in 1–6, the last spot being shifted in, a post-discal broad white fascia, submarginal diffused black spots in each space; cilia white prominently chequered with brown at the end of each vein. Below hind-wing dark chocolate brown, but is so covered with very large white spots that the ground-colour can hardly be seen; four basal spots, in 7, double-sized in cell occupying two-thirds of it, in 1 and 1a; discal row of 7 spots, those in 1–5 in a straight line pointing to the apex, 6 and 7 shifted right in; post discal, etc., markings as on the fore-wing. Antennae prominently ringed white and with an unusually large club. Eyes smooth. Palpi unusually long. Apex of fore-wing sharp pointed, but not produced; termen highly convex especially near dorsum; hind-wing evenly rounded. Expanse of male 23 and of female 19 millimetres. The nearest ally to this very distinct little species is the *Lycaena luana* I described from S. E. Thibet in J.B.N.H.S., vol. xxiii; the general appearance below is similar and the hind-wings are much the same; but the chequered cilia, the markings on the fore-wing and the blue colouring above render it easily recognisable.

18. *Chrysophanus phloeas*. Kharta district, Aug. 12, at 13,500 ft.

W. H. EVANS.

## APPENDIX II.

### 1922 COLLECTION.

The following List of the Rhopalocera taken by Dr. Longstaff and Major Norton on the 1922 Mt. Everest Expedition adds several species to the previous list—but

nothing new—and some further localities. The start was made much earlier than in 1921, which accounts for the interesting capture of *Parnassius hunnyngtoni* again, at the end of April; but only a single specimen was obtained, unfortunately. The bulk of the collection comes from the comparatively low-lying valley of the Arun River, at altitudes of 11,000–12,000 ft.; nothing was taken above 17,000 ft. on this occasion.

The species have been numbered as in the List of the 1921 Collection. An asterisk indicates that the species was not obtained in 1921. The letters (N.) and (L.) indicate the captures made by Major Norton and Dr. Longstaff respectively.

1. *Papilio machaon sikkimensis* Moore.

1♂, Samchun La, Kharta, 15,500 ft., 20/6/22 (Major Norton).

1 ♂, Base Camp, 16,500 ft., 19/5/22 (Dr. Longstaff).

2. *Parnassius aceo gemmifer* Frühst.

1 ♂, Dongka La, 17,000 ft., 18/7/22 (N.).

2 ♂, 1♀, Dongka La, 16,000 ft., 19/7/22 (N.).

\* 2a. *Parnassius hunnyngtoni* Avinoff.

1916. *Parnassius hunnyngtoni* Avinoff, Trans. Ent. Soc., London, 1915, p. 351.

1♀, Pang La, 17,000 ft., 28/4/22 (L.).

4. *Parnassius hardwickii* Grey.

5♂, 1♀, Samchu La, Kharta, 16,000 ft., 20/6/22 (N.).

1♂, Samchu La, Kharta, 14,500 ft., 3/7/22 (N.).

8. *Baltia butleri* sikkima Frühst.

1 ♀, Phung Chu, Arun Valley, 11,000 ft., 9/6/22 (N.).

\* 6a. *Pieris canidia* Spar.

1904. *Danaus canidia* Moore, l.c., vi, p. 133.

1907. *Pieris canidia* Bing., l.c., ii, p. 172.

1910. *Pieris canidia* Frühst., l.c., ix, p. 139.

1912. *Pieris (Pieris) canidia* Evans, l.c., p. 976.

1 ♀, Phung Chu, Arun Valley, 11,000 ft., 19/6/22 (N.).

\* 6b. *Pieris melete melaina* Böber.

1904. *Danaus ajaka* Moore, *l.c.*, vi, p. 132 (part).  
 1907. *Pieris napi melete* Bing., *l.c.*, ii, p. 173 (part).  
 1910. *Pieris melete melaina* Frühst., in Seitz, ix, p. 140.  
 1912. *Pieris melete melaina* Evans, *l.c.*, p. 976.

2 ♂, 1 ♀, Phung Chu, Arun Valley, 11,000 ft., 19/6/22 (N.).

10. *Colias fieldi edusina* Felder.

- 2 ♀, Arun Valley, 11,000 ft., 9/6/22 (N.).  
 1 ♂, Arun Valley, 11,000 ft., 14/6/22 (N.).  
 1 ♀, Karma Valley, 12,000 ft., 22/6/22 (N.).

\* 10a. *Colias nina* Fawcett.

1904. *Colias nina* Fawcett, Proc. Zool. Soc., London, p. 139, Pl. 9.  
 1907. *Colias ladakensis* r. *berylla* Bing., *l.c.*, ii, p. 236 (part).  
 1907. *Colias berylla* Röber, in Seitz, i, p. 66 (part).  
 1909. *Eurymus berylla* var. *nina* Swinhoe, in Moore, vii, p. 169.  
 1911. *Colias nina* Verity, Rhop. Pal., p. 350.  
 3 ♂, Phung Chu Valley, below Shekar Djong, 14,000 ft., 10/7/22 (N.).

14. *Argynnis lathonia issaea* Moore.

- 1 ♀, Kharta, 12,000 ft., 11/6/22 (N.).  
 2 ♀, Phung Chu, Arun Valley, 11,000 ft., 19/6/22 (N.).  
 1 ♀, Karma Valley, 12,000 ft., 22/6/22 (N.).

17. *Argynnis clara manis* Frühst.

- 2 ♂, Dongka La, 16,000 ft., 18/7/22 (N.).

18. *Melitaea sindura tibetana* Fawcett.

- 2 ♂, Tinki, 13,500 ft., 15/7/22 (N.).  
 1 ♂, Dongka La, 16,000 ft., 18/7/22 (N.).  
 1 ♀, above Phari, 15,000 ft., 19/7/22 (N.).

\* 18a. *Pyrameis cardui* L.

1905. *Vanessa cardui* Bing., *l.c.*, i, p. 365.  
 1 ♂, Trangsar Chumbab, 13,000 ft., 23/4/22 (N.).  
 1 ♂, Phung Chu, Arun Valley, 11,000 ft., 17/6/22 (N.).

20. *Vanessa caschmirensis aësis* Frühst.

1 ♀, Arun Valley, 11,000 ft., 9/6/22 (N.).

21. *Vanessa ladakensis* Moore.

1 ♂, Base Camp, 16,500 ft., 29/5/22 (L.).

1 ♂, Pang La, 15,000 ft., 8/6/22 (L.).

1 ♀, Kharta Chu, 13,000 ft., 12/6/22 (N.).

1 ♂, Phung Chu, 11,000 ft., 15/6/22 (N.).

\* 21a. *Polygonia interposita agnicula* Moore.

1899. *Polygonia agnicula* Moore, l.c., iv, p. 99.

1905. *Vanessa c-album* r. *agnicula* Bing., l.c., i, p. 372.

1912. *V. (Polygonia) c-album agnicula* Evans, List, l.c., p. 580.

1921. *P. interposita agnicula* Riley, Ann. Mag. Nat. Hist. (9), viii, p. 596.

1 ♀, Arun Valley, 11,000 ft., 9/6/22 (N.).

1 ♂, Arun Valley, 11,000 ft., 14/6/22 (N.).

22. *Argestina karta* Riley.

2 ♂, 1 ♀, Pang La, 15,000–16,000 ft., 8/6/22 (L.).

3 ♂, Arun Valley, 11,000 ft., 9/6/22 (N.).

1 ♀, Chushar, 14,500 ft., 13/6/22 (L.).

\* 22a. *Argestina nitida* sp. nov.

(Pl. XXXVII, figs. 6–8)

1 ♀, Pang La, 15,000–16,000 ft., 8/6/22 (L.).

♂. *Upperside, both wings*: uniformly dark glossy brown with greenish and purplish reflections in certain lights, the cilia light grey with darker markings at the extremities of the veins. *Fore-wing*: no trace of any area of modified scales, or submarginal line, the ocellus present in area 5 but minute. *Underside*: markings arranged as in *waltoni* and *karta*, but the warm chestnut brown of underside of fore-wing is replaced by dull coppery, and the irrorated appearance of the apical area is continued the whole length of the costa, and the yellowish ring of the ocellus is barely discernible: on the *hind-wing*, the three transverse wavy lines are completely lost in the mottled dark brown and ochreous, and the postdiscal row of white points is increased to six in number by the addition of a point in area 1c.

♀. Exactly resembles the ♂ both above and below, except for the

greater size and the increased prominence of the ocellus, which, in the only specimen of this sex obtained, has two white pupils, and for the suffusion of the greater part of the fore-wing with coppery.

Length of fore-wing, ♂ 20 mm.; ♀ 19 mm.

Between Phari and Gyangtse, 13,000–15,000 ft., June 1904 (*H. T. Walton*), 3 ♂, 1 ♀.

Types ♂♀ in B.M.

The genitalia of this species give ample proof of its specific difference from the others placed in *Argestina*. It is the only one of the four completely to lack the area of modified scales on the fore-wing of the ♂, but, as to the rest of its generic characters, agrees exactly with *waltoni* and *karta*.

## 25. *Paroeneis sikkimensis* Staud.

1 ♂, Tinki, 13,500 ft., 15/7/22 (*N.*).

## 26. *Lycaena arene* Fawcett.

1 ♂, Dzaka Chu, 14,000 ft., 6/7/22 (*N.*).

1 ♂, Dzaka Chu, 14,000 ft., 7/7/22 (*N.*).

1 ♂, Tinki, 13,500 ft., 15/7/22 (*N.*).

## 28. *Lycaena pherctes pharis* Fawcett.

2 ♂, near Phari, 15,000 ft., 19/7/22 (*N.*).

## 29. *Lycaena asiatica* Elwes.

1 ♂, 1 ♀, Karma Valley, 12,000 ft., 21/6/22 (*N.*).

2 ♂, Karma Valley, 12,000 ft., 22/6/22 (*N.*).

2 ♂, Sakithung, 12,000 ft., 22/6/22 (*N.*).

## 30. *Lycaena janigena* Riley.

1 ♀, above Phari, 15,000 ft., 19/7/22 (*N.*).

## 30a. *Lycaena younghusbandi* Elwes.

1907. *Lycaena younghusbandi* Bing., *l.c.*, ii, p. 338.

1910. *Lycaena younghusbandi* Swinhoe, in Moore, viii, p. 5.

1912. *Lycaena younghusbandi* Evans, List, *l.c.*, p. 983.

1 ♂, Dzaka Chu, 14,000 ft., 7/7/22 (*N.*).

## 31. *Heodes phlaeas* L.

2 ♀, Arun Valley, 11,000 ft., 9/6/22 (*N.*).

1 ♂, 1 ♀, Kharta, 12,000 ft., 12/6/22 (*N.*).



